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ABSTRACT

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BOUNDARIES AROUND GROUP INTERACTION: THE EFFECT OF SIZE AND STATUS

Eric S. Knowles

While human groupings are usually studied to identify some of the intra-group processes, they are also social units that have stimulus value for others. Groups can be seen as social stimuli that elicit certain kinds of social responses. Milgram, Bickman, and Berkowitz (1969), for instance, reported that experimental crowds on a busy New York City street attracted people to join in the crowd activity (looking up, across the street, at a sixth story window) and that the effect of the crowd increased with its size. While most of the passersby were only momentarily affected, e.g., they glanced up as they strolled by, some stopped and joined the crowd, thereby extending the limit or boundary around the unit.

In their discussion of collective behavior, Milgram and Toch (1969) identify two characteristics of unit boundaries: (1) the sharpness of a boundary, denoting the ease with which members of a unit can be distinguished from non-members, and (2) the permeability of a boundary, referring to the openness of the unit to penetration or extension. In the Milgram, Bickman, and Berkowitz (1969) study, the size of the crowd is likely to have affected both the sharpness and the permeability of the boundary around it.

The smallest social unity, a single person, appears to have boundaries that, in normal social interaction, are fairly impermeable. Sommer (1969, p. 26) has defined this bounded area as "personal space", the "...area with invisible boundaries surrounding a person's body into which intruders may not come." Defined this way, personal space is a subjective concept, defined by the person, and, consonant with this view, Sommer has found that people would rather move than suffer penetration of the boundary around personal space.

The space that individuals or interactions occupy, however, have stimulus value for others as well. The point at which an approach to another person is

stopped has been studied as a function of the stimulus person. Horowitz, Duff, and Stratton (1964), using this approach procedure with mental patients, found that a greater distance was left when the stimulus object was a person than when it was a hatrack. Argyle and Dean (1965) observed that people stood closer to a life-size photograph of a person with his eyes closed than to a photograph with the eyes open. These studies suggest that, for a social unit of one, there are boundaries defining the limits of personal space and that these boundaries: (a) can resist penetration, (b) are observed by others, and (c) can be strengthened and extended in several ways.

The present study investigates whether these generalizations from the study of personal space can be applied to the bounded interaction space of somewhat larger social units. An interacting pair, for instance, forms a single unit with a boundary around the interaction space. Lyman and Scott (1967, p. 240) define such a space as an interaction territory and hypothesize that "...every interactional territory implicitly makes the claim of boundary maintenance for the duration of the interaction." Thus, an interaction between members of a small group should be relatively impermeable, resisting penetration from passersby.

In addition, if boundaries around interacting units have social stimulus value for passersby, the resistance of a boundary to penetration should be affected by qualities of the interaction and interactors. Specifically, for small interacting groups, the number of participants should increase the sharpness and the impermeability of the unit boundary. The larger the group (up to a limit) the clearer it should be that an interaction is occurring and the more potent should be the demand for a specific interaction territory. The

status of the interactors should have little effect on the clarity of the unity boundary, but with high status interactors the implicit control over the interaction territory should be increased. Thus, both of these variables, size and status, should affect the permeability of group interaction boundaries.

From these considerations, the following hypotheses are derived: (1) passersby resist penetrating the boundaries of an interacting social unit, (2) the more members the interacting unit has, the more impenetrable the boundary is, and (3) the higher the status of the interactors, the more the unit boundary resists penetration.

METHOD

Interacting social units varying in size and status or a pair of wastebarrels were placed in the main traffic path of a hallway connecting two university buildings. The wastebarrels approximately 38 centimeters in diameter and 75 centimeters high occupied about the same floor area as an interactor and were used in a non-interaction control condition. The stimulus objects (people or wastebarrels) were placed in a hallway 295 centimeters wide so that a person's center of gravity or the center of the barrels was aligned over a mark 75 centimeters away from the wall, leaving a space of 145 centimeters between the marks. The marks were placed in the hallway so that a line between them ran perpendicular to the flow of passersby.

An observer sitting six meters away in a widened portion of the hallway and thus out of the traffic flow (see figure 1), recorded the number and sex of passersby walking through the stimuli (i.e., down the center of the corridor) or walking around the stimuli (i.e., next to one of the walls). Recordings of passerby behavior were made for two minute observation periods with the period beginning about one minute after the stimuli were in place. The five experimental

conditions (wastebarrels; low status, low size; low status, high size; high status, low size; and high status, high size) were randomly assigned within each of five replications for a total of twenty-five observational periods.

Size

The stimulus interactions had either two (low size) or four (high size) persons. Pairs were composed of a male and a female; foursomes were composed of a male and a female on each side of the hallway, across from an interactor of the opposite sex. The spaces down the center of the corridor and next to the walls were the same for both interaction sizes. With foursomes, the two people on the same side of the hallway stood on a line parallel to the wall. They did turn slightly away from this parallel line to face both of the opposite people. Interactors were instructed to: face the people opposite them, maintain eye contact across the traffic flow, and carry on a discussion in a low voice.

Figure 1 about here

Status

Status differences in the stimulus interactions were produced by jointly varying two dimensions: age and dress. These two signs of a person's position in the social structure were considered germane to a University setting. Two status conditions were developed. From an undergraduate group dynamics seminar, the instructor and the three oldest students (both males were 28 years old; the females were 34 and 38 years old) dressed in formal business clothes and formed the stimulus persons for the high status conditions. Four younger students (the males were 19 and 21 years old; the females were 19 and 20 years old) dressed casually in informal school wear and comprised the low status stimulus persons. The four person interactions were composed of all the stimulus people available for each status condition. The four people in each status condition rotated membership in the two-person interactions.

Subjects

This study was conducted between the hours of 9:30 and 11:00 a.m. on Ecology Day ("E-day"), April 22, 1970, at a University that emphasizes ecology. In addition to regularly scheduled classes, many special events were occuring; public lectures, displays, discussions, and symposia. The effects of this special day were three-fold: (1) the amount of traffic in the hallway studied was somewhat greater then usual and averaged 8.6 persons per minute for the observational periods, (2) the traffic flow was somewhat more even than would occur on a day when class changes provided the major impetus for movement, and (3) the sample of passersby was more heterogeneous than the usual student-faculty population, including many parents and adult community members. During the scheduled observations, 429 encounters of passersby with the stimulus situations were recorded. Since control of the comings and goings of passersby was not possible, some of the travelers may have participated in more than one encounter. However, since conditions were assigned randomly, multiple encounters should not contribute any systematic bias.

RESULTS

It was hypothesized that interacting people would establish boundaries around the group that would divert passersby from walking through the interaction. To test this hypothesis, the four conditions involving interacting stimulus persons were compared to the control condition where wastebarrels were placed in the same position. Sex of the passerby did not effect responses to any of the variables in this study (all X^2s less than 1), so the data are grouped for all passersby. With the wastebarrels, 75.8% of the passersby penetrated the space between the objects - that is, walked down the center of the corridor; with interacting groups, only 25.1% of the passersby penetrated the interaction.

This difference is highly significant [p (X^2 = 78.99, d.f. = 1) < .001] and supports the hypothesis that interacting social units create boundaries that resist penetration from passersby.

The additional hypotheses dealt with the social nature of group boundaries and proposed that characteristics of the interacting social unit affect the sharpness and the permeability of group boundaries, both of which affect the rate of penetration by passersby. The size of the interacting group decreased the penetration of the interaction boundary. More traffic walked through the two person group (30.0%) than walked through the four person group (19.9%). This difference is significant [p (X^2 = 4.67, d.f. = 1) < .05] and supports the hypothesis that groups of larger size establish a group boundary that has greater clarity and/or impermeability for passersby. The status of the interactors also affected the behavior of passersby; more traffic walked through the low status groups (30.0%) than walked through the high status groups (18.3%). This significant difference [p (X^2 = 4.96, d.f. = 1) < .05] supports the hypothesis that higher status of the group members decreases the permeability of the group boundary.

Table 1 about here

Figure 2 about here

Both size and status of the group interactions affect the penetration rates from passersby. Subsequent multidimensional analysis of the data[3] (Feinberg, 1970) indicated that these variables do not interact, but operate additively on passerby penetration. Thus it appears from the present study that size of the group and the status of the group members have independent effects on the stimulus value of group boundaries.

DISCUSSION

The large differences between the penetration of wastebarrels and the penetration of interacting groups provides direct support for Lyman and Scott's (1967) hypothesis that an "...interactional territory implicitly makes the claim of boundary maintenance for the duration of the interaction (p. 240)." An ongoing interaction has stimulus value for others; passersby will avoid walking through an informal interaction even when it blocks a major portion of a well travelled hallway. Many of the passersby in this study had to change their direction, turn sideways to "ease by", and even stop to wait for oncoming traffic in order to walk around rather than through the interaction.

While a majority of the traffic did avoid penetrating the interactions, still 25% of the passersby violated the interactional territory. It would be interesting to know who these people were and what their response to the interactors was. Regrettably these data were not recorded. Only the sex of the passerby was recorded and sex did not differ for those who walked through or around. Many characteristics of the passerby, such as status, observation of a model, or various personality orientations may be related to his penetration of an interaction. For instance, it seems likely that interactional boundaries are more permeable for high status persons than for low. In the present study, the observers had the impression that faculty and administrators (high status passersby) did have a higher penetration rate than students. Future studies of passerby behavior would profit from taking greater notice of passerby characteristics.

Many of the penetrators in the present study did respond to the interactors. While apologies such as "excuse me" and "sorry" were frequent, penetrators responded noverbally as well. A common response was to duck the

head and hurry through the interaction. This pattern allowed people to penetrate the interaction without interrupting the interactors' eye contact. Also, in contrast to people who walked around an interaction, penetrators almost never looked at the interactors once they approached within two or three feet. These impressions support the conclusion that an interaction does have stimulus value for others, even those who penetrate an interaction.

The finding that penetration of the group is affected by its size and status suggests that the boundary concept can be applied to collective behavior not only as an analytic tool (Milgram and Toch, 1969) but as an operationalizeable concept to which other variables may be related empirically. While two qualities of group boundaries - their sharpness and their permeability - may effect the behavior of passersby, it is most likely that the size of the group and especially the status of the members had their primary effect on the permeability of the group boundary rather than its sharpness. While it would be useful in future research to distinguish boundary sharpness from boundary permeability, this study demonstrates that there is a relationship between group characteristics and passerby behavior and that a concept of group boundaries appears to be a useful mediating variable.

When compared to the Milgram, Bickman, and Berkowitz (1969) findings that crowds looking across the street at a sixth floor window tended to attract passersby, the finding in this study that conversations repel passersby suggests that the nature of the group activity has a major effect on the permeability of the unit boundary. Some group activities appear to be inclusive, others exclusive of passersby. A more complete model of the effect of group boundaries on non-group members will have to include statements about the group activity. When this is done, the finding in the present study that size and status are

independent may take on added importance. The implication from this study and the Milgram, Bickman and Berkowitz study is that size interacts with the group activity to make group boundaries more permeable when the group activity is inclusive (looking up at the sixth floor) and more impermeable when the group activity is exclusive (carrying on a conversation). Status may affect boundary permeability in a different way. For instance, it is possible that status may have a unitary effect; the higher the status of the group members, the more impermeable the boundary, no matter what the activity.

FOOTNOTES

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[3]The suggestion of Feinberg's procedure and assistance provided by Professor David Jowett is greatly appreciated.

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TABLE 1

Number and Percent of Passersby who Walked Through and Around the Stimuli in Each Condition.

Condition		Passerby Behavior					
		Through		Around		Total	
Size	Status	n	%	n	%	n[a]	%
4-person	High	15	17.2	72	82.8	87	100.0
4-person	Low	18	22.8	61	77.2	79	100.0
2-person	High	16	22.2	56	77.8	72	100.0
2-person	Low	36	35.6	65	64.4	101	100.0
Interactions		85	25.1	254	74.9	339	100.0
Wastebarrels		68	75.6	22	24.4	90	100.0

[a]Differences in the total traffic for each of the five experimental conditions are not significantly different [p (X^2 = 5.66; d.f. = 4) <.2].

Figure 1 HALLWAY SETTING FOR THE STIMULUS SITUATIONS

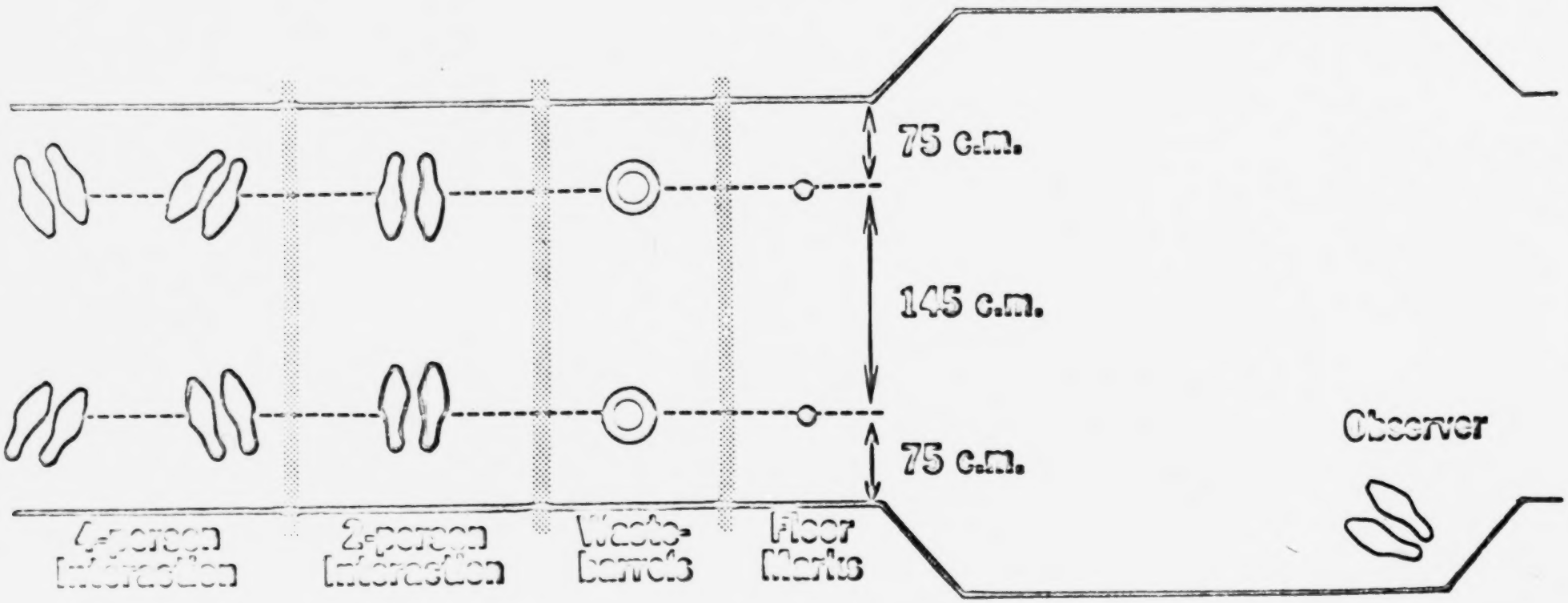

FIGURE 2

The Effect of Size of the Group and Status of the Group Members on the Percent of Passersby who Penetrated the Interaction.